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## PRE-APPEAL BRIEF REQUEST FOR REVIEW

Docket Number (Optional)

133918-1/SWA (GERD:0332)

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on June 5, 2007

Signature

Typed or printed name

Seanelle Dice

Application Number

10/720,817

Filed

November 24, 2003

First Named Inventor

Abhay S. Kant et al.

Art Unit

2863

Examiner

Lau, Tung S.

Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request.

This request is being filed with a notice of appeal.

The review is requested for the reason(s) stated on the attached sheet(s).

Note: No more than five (5) pages may be provided.

I am the

☐

applicant/inventor.

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assignee of record of the entire interest.  
See 37 CFR 3.71. Statement under 37 CFR 3.73(b) is enclosed.  
(Form PTO/SB/96)

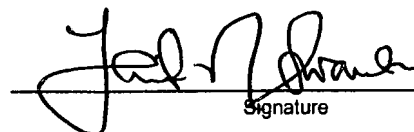
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attorney or agent of record.  
Registration number 48,226

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attorney or agent acting under 37 CFR 1.34.

Registration number if acting under 37 CFR 1.34 \_\_\_\_\_



Signature

Tait R. Swanson

Typed or printed name

(281) 970-4545

Telephone number

June 5, 2007

Date

NOTE: Signatures of all the inventors or assignees of record of the entire interest or their representative(s) are required. Submit multiple forms if more than one signature is required, see below.

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of:  
Abhay S. Kant et al.

Serial No.: 10/720,817

Filed: November 24, 2003

For: METHOD AND APPARATUS  
FOR DETECTING RUB IN A  
TURBOMACHINE

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Group Art Unit: 2863

Examiner: Lau, Tung S.

Atty. Docket: 133918-1/ SWA  
GERD:0332

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Jun 5, 2007

Date

Taft R. Swanson

**PRE-APPEAL BRIEF REQUEST FOR REVIEW**

In respect to the Advisory Action of May 23, 2007, Appellants respectfully submit this Pre-Appeal Brief Request for Review. This Request is being filed concurrently with a Notice of Appeal.

In the Final Office Action mailed on March 5, 2007, the Examiner essentially reiterated the rejection formulated in the previous non-final Office Action. The Examiner rejected all of pending claims 1-4, 51, 52, 54-58, and 60-75. Of these, claims 1, 3, 4, 51, 52, 54-58, and 60-75 are rejected under 35 U.S.C. § 102(b) and claim 2 is rejected under 35 U.S.C. §103(a). Of these, claims 1, 3, 4, 51, 52, 54 and 56 are independent. The Appellants respectfully request withdrawal of the foregoing rejections in view of the clear legal and factual errors as discussed below.

**Rejections Under 35 U.S.C. § 102**

The Examiner rejected claims 1, 3, 4, 51, 52, 54-58, and 60-75 under 35 U.S.C. § 102(b) as anticipated by Sato, U.S. Patent No. 4,478,082. Appellants respectfully traverse this rejection in view of the reasons set forth in the previous Response, as well as the reasons set forth below. *See* Response to Final Office Action, pages 7-13.

***Sato is missing features recited by independent claim 1, 3, 4, 51, 52, 54 and 56.***

Appellants submit that independent claims 1, 3, 4, 51, 52, 54 and 56 recite, in generally similar language, detecting whether a rub is occurring in the turbomachine between tip portions of the plurality of blades and corresponding seal portions of the turbomachine. Sato does not teach or suggest these claim features. Specifically, Sato is absolutely silent about the actually type of geometry or structure of the bearings. Given that bearings are typically smooth cylindrical assemblies to decrease friction and improve rotation between components, it is unreasonable to assume that the bearings of Sato include tip portions and corresponding seal portions as recited by the present claims.

In the “Response to Arguments” section on page 2 of the Advisory Action, the Examiner references various portions of Sato in an attempt to show anticipation of the present claims. After careful review of these portions of Sato, the Appellants reiterate that Sato does not teach or suggest the foregoing claim features. In fact, the cited portions of Sato clearly do not mention or suggest a rub event associated with “tip portions.” Instead, Sato repeatedly mentions contact between a rotor and a stator without any mention of tip portions. It appears that the Examiner has ignored these claim features despite the Appellants’ explanation of the deficiencies of Sato.

For example, in the Advisory Action, the Examiner emphasized the following quotes from Sato: “occurrence of abnormal metal-to-metal contact at a bearing of the rotary machine,” “mechanical contact of its rotor with its stator during rotation of the rotary machine,” “occurrence of rubbing between the rotor and stator of the rotary

machine,” “occurrence of abnormal metal-to-metal contact between the rotary shaft S of the rotor 20 and the bearing 21.” Advisory Action, pages 4-5 (emphasis in original). The Examiner did not identify the tip portions of the plurality of blades and the corresponding seal portions. The Appellants searched an electronic version of Sato, and found absolutely no instances of the following terms: tip, blade, seal, and so forth.

On page 2 of the current Advisory Action, the Examiner stated that words in patent claims are given their ordinary meaning in the usage of the field of invention, unless the text of the patent makes clear that a word was used with a special meaning. The Examiner stated that, in this case, the Appellants fail to present any specific definition and USPTO personnel are to give claims their broadest reasonable interpretation in light of the supporting disclosure. Appellants, however, respectfully emphasize that the Examiner’s interpretation is both unreasonable and ignores the ordinary meaning of the claim terms. It is improper for the Examiner to disregard or dismiss claim language that distinguishes the claims over the prior art and *equate a shaft to a blade tip and a journal bearing to a seal portion*. In view of these deficiencies, among others, the cited reference cannot anticipate independent claims 1, 3, 4, 51, 52, 54 and 56 and their dependent claims.

***Sato is missing features recited by dependent claims 62, 66, 68, 70, 72 and 74.***

Dependent claims 62, 66, 68, 70, 72 and 74 recite a variety of features that are missing from the cited references, taken alone or in hypothetical combination. Each of these dependent claims recites, *inter alia*, the “plurality of blades is disposed on the rotor and the corresponding seal portions are disposed on the stator.” Again, the independent claims generally recite rub detection between tip portions of the blades and the corresponding seal portions. Thus, in context of these dependent claims, the tip portions are disposed on blades on the rotor.

The Appellants respectfully reiterate that Sato fails to teach or suggest the foregoing features. In sharp contrast, Sato discloses a rub occurring only between a shaft and its corresponding bearings as discussed above. The Appellants stress that Sato merely discloses that “rubbing is occurring at a point **R** between the rotor and the stator **2**.” Sato, col. 2, lines 56-58. With reference to FIG. 1 of Sato, the Appellants stress that the point R is a groove or recess rather than a tip portion on the rotor. The Appellants stress that one of ordinary skill in the art would never confuse a groove with a tip in this context or any other context. As a result, the Sato reference clearly fails to teach or suggest the foregoing features of claims 62, 66, 68, 70, 72 and 74.

In view of the foregoing deficiencies in the teachings of the prior art, the reference cannot establish a *prima facie* case of anticipation of claims 62, 66, 68, 70, 72, and 74. Accordingly, these claims are believed to be clearly patentable over the cited reference. Their reconsideration and allowance are respectfully requested. For at least these reasons, among others, the Appellants respectfully request withdrawal of the rejections under 35 U.S.C. § 102.

**Rejections under 35 U.S.C. § 103(a)**

The Examiner rejected claim 2 under 35 U.S.C. §103(a) as being unpatentable over Sato in view of Turbine power systems conference (February 25-26, 2002). Appellants respectfully traverse this rejection in view of the reasons set forth in the previous Response, as well as the reasons set forth below. *See* Response to Final Office Action, page 14.

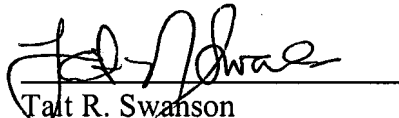
As stated above, independent claim 1 recites detecting whether a rub is occurring in the turbomachine between tip portions of the plurality of blades and corresponding seal portions of the turbomachine. Sato fails to teach or suggest the foregoing features of independent claims 1 as discussed above.

The "Turbine power systems conference" reference fails to obviate the deficiencies of the Sato reference. The Examiner relied on the secondary reference solely for its disclosure of a server in communication with the on site monitor via an internet. However, the secondary reference does not teach or suggest detecting whether a rub is occurring in the turbomachine between tip portions of the plurality of blades and corresponding seal portions of the turbomachine. For at least this reason, among others, the hypothetical combination of the Sato reference and the "Turbine power systems conference" reference cannot support a *prima facie* case of obviousness of the present claims.

For all of the above reasons, Appellants respectfully request that the Panel instruct the Examiner to withdraw the outstanding rejections and allow the pending claims.

Respectfully submitted,

Date: June 5, 2007

  
Tait R. Swanson  
Reg. No. 48,226  
FLETCHER YODER  
P.O. Box 692289  
Houston, TX 77269-2289  
(281) 970-4545